```
  {Scroll|S[croll]U[p]} [*|n|1]     (Note: 3270 only.)

  SERial {OFF|{ON|ALL|seq [incr|10]}}

  SHORT

  STACK [n|1|0] [any valid EDIT subcommand]

  TABSet   n1 [n2 ... nn]

  TOP

  TRUNC  [n|*]

  Type  [1|m|* [n|*]]

  Up  [n|1]

  Verify  [ON|OFF] [[startcol|1] endcol|*]

  {X|Y}  [any valid EDIT subcommand|n|1]

  Zone [firstcol|*|1 [lastcol|*]]

  {nnnnn|nnnnnnnn} [text]

• ERASE {fn|*} {ft|*} [fm|*] [ (options...[) ]]
  options:
  [Type|NOType]

• ESERV fn

• [EXec] fn [args...]
```

The formats of the EXEC control statements are:

```
  &variable = {string|ae|function|X'xxxxxx}

• &ARGS  [arg1 [arg2 ... [arg30]]]

  &BEGEMSG  [ALL]

  &BEGPUNCH  [ALL]

  &BEGSTACK   [LIFO|FIFO] [ALL]

  &BEGTYPE  [ALL]

  &CONTINUE
                                      ┌      ┐ ┌       ┐ ┌      ┐
  &CONTROL  [CMS|OFF|ERROR|ALL] |TIME   | |NOPACK| |NOMSG|
                                      |NOTIME| |PACK   | |MSG   |
                                      └      ┘ └       ┘ └      ┘

  &EMSG  mmmnnns [tok1 ... [tokn]]

  &END

  &ERROR [executable-statement|&CONTINUE]

  &EXIT  [return-code|0]

  &GOTO  {TOP|line-number|-label}

  &HEX   {ON|OFF}

  &IF {tok1}  { {EQ|=} | {NE|¬=} }  {tok2} executable-statement
      {&$  }  { {LT|<} | {GT|>}   }  {&$  }
      {*   }  { {LE|<=} | {GE|>=} }  {&*  }

  &LOOP {n|-label} {m|condition}

  &PUNCH  [tok1 [tok2 ... [tokn]]]

  &READ  [VARS [&var1 [&var2 ... [&varn]]]|ARGS|n|1]

  &SKIP  [n|1]

  &SPACE [n|1]

  &STACK  [LIFO|FIFO] [HT|RT|tok1 [tok2 ... [tokn]]

  &TIME   [ON|OFF|RESET|TYPE]

  &TYPE  [tok1 [tok2 ... [tokn]]]
```

The format of EXEC built-in functions are:

```
&variable = &CONCAT  tok1 [tok2... [tokn]]
&variable = &DATATYPE token
&variable = &LENGTH token
[...] &LITERAL token [...]
&variable = &SUBSTR token i [j]
```

The EXEC special variables are:

```
&n          &DISKx        &EXEC         &LINENUM
&*          &DISK*        &GLOBAL       &READFLAG
&$          &DISK?        &GLOBALn      &RETCODE
&0          &DOS          &INDEX        &TYPEFLAG
```

```
• EXEC 2 (see Reference Summary VM/SP EXEC 2 Language,
  Order No. SX24-5124

• FETch phasename  [ (options...[) ]]
  options:
  [START] [COMP] [ORIGIN hexloc]

• FIledef┌{ddname} ┌Terminal [ (optionA optionD[) ]]                 ┐┐
         |{nn    } |{PRinter|PUnch|Reader} [ (optionA[) ]]            ||
         |{*     } |                                                   ||
         |         |DISK┌fn   ft      ┌fm┐┐[ (optionA optionB[) ]]     ||
         |         |    |FILE ddname |A1||                             ||
         |         |    └            └  ┘┘                             ||
         |         |  ┌┌DISK{fn    ft    }┐┌fm┐┐{DSN ?        }        ||
         |         |  ||     {FILE ddname}||A1||{DSN qual1    }        ||
         |        <   └└                  ┘└  ┘┘{       qual2...}     >|
         |         |                        [ (optionA optionB[) ]]    ||
         |         |DUMMY [ (optionA[) ]]                              ||
         |         |        ┌                    ┐                      ||
         |         |TAP[n] |LABOFF              |[ (optionA           ||
         |         |        |BLP[n]              |   optionC           ||
         |         |        |SL[n][VOLID volid]  |   optionE[) ]]      ||
         |         |        |SUL[n][VOLID volid]|                      ||
         |         |        |NSL filename        |                      ||
         |         |        |NL[n]               |                      ||
         |         |        └                    ┘                      ||
         |         └CLEAR                                              ┘|
         └                                                              ┘

  optA: [PERM] [CHANGE|NOCHANGE][LRECL nnnnn][{BLOCK|BLKSE} nnnnn]
        [RECFM {A|F|FB|FBS|FS|M|V|VB|VBS|VS|U}]

  optB: [KEYLEN nnn] [XTENT {nnnnn|50}] [CONCAT]
        [LIMCT nnn] [OPTCD {[A|R][F][E]}]
        [DISP MOD] [MEMBER membername] [DSORG {PS|PO|DA}]

  optC: [7TRACK|9TRACK] [TRTCH {0|OC|OT|E|ET}]
        [DEN {200|556|800|1600|6250}]

  optD: [UPCASE|LOWCASE]

  optE: [LEAVE|NOEOV]

• FINIS {fn|*}  {ft|*} [fm|*]

• FORMAT  cuu mode [nocyl|noblk]n3 [ (options...[) ]]
  options:
                                         ┌      ┐
  [Label|Recomp|Noerase|Blksize |  800|]
                                         |1024|
                                         |2048|
                                         |4096|
                                         |   1K|
                                         |   2K|
                                         |   4K|
                                         └      ┘

• GENDIRT  directoryname [targetmode]

• GENERATE {VM370|DIRECT[ONLY]|DMKRIO[ONLY]|DMKSYS[ONLY]|
            DMKFCB[ONLY]|DMKSNT[ONLY]|IPLDECK|SERVCPGM|
            [CP|CMS]NUCLEUS[NOLOAD]|RSCS[BUILD]}

• GENIMAGE [fn|SYSIN][ft|FILE][fm|*][sfn|SYSPRINT][sft|LISTING]
            [sfm|A1]

• Genmod  [fn [MODULE [fm|A1]]] [ (options...[) ]]
  options:
  [NOMAP|MAP] [STR|NOSTR] [FROM entry1] [TO entry2] [SYSTEM]
  [OS|DOS|ALL]

• GEN3705 fn ft [fm] [ (options...[) ]]
  options:
  [RUN|NORUN] [SAVE|NOSAVE]

• GLobal {MACLIB|TXTLIB|DOSLIB|LOADLIB} [libname1... libname8]

• HB
         ┌                                        ┐
• Help  |msg number                              | [ (options...[) ]]
         |Help                                    |
         |                     ┌          ┐       |
         |command name |MENU      |       |
         |                     |subcommand|       |
         |                     └          ┘       |
         |exec name                               |
         |filename                                |
         |component name {MENU         }          |
         |                {command name }          |   options:
         |                {exec name    }          |     [ALL|FORM|PARM|DESC]
         |                {subcommand   }          |
         └                                        ┘
• HO

• HT

• HX

• IMAGELIB namedsys
```

```
• IMAGEMOD {GEN                      } {libname                  }
           {ADD                      } {[modname [modname]...]  }
           {REP                      }
           {DEL                      }
           {MAP [ (options...[) ]]   }
  options (for MAP only):
  [TERM|PRINT|DISK]

• INclude  fn... [ (options...[) ]
  options:
  [CLEAR|NOCLEAR] [RESET {entry|*}][NOMAP|MAP] [NOINV|INV]
  [NOREP|REP] [TYPE|NOTYPE] [NOAUTO|AUTO] [NOLIBE|LIBE]
  [NODUP|DUP] [START] [SAME] [ORIGIN{hexloc|TRANS}]

• LAbeldef {filename} (CLEAR                               ) [ (op-
           {  *      } ( [FID {?|fid}] [VOLID volid]       )   tions...[) ]]
                       ( [VOLSEQ volseq] [FSEQ fseq]       )
                       ( [GENN genn] [GENV genv]           )
                       ( [GENN genn] [GENV genv]           )
                       ( [GENN genn] [GENV genv]           )
                       ( [CRDTE yyddd] [EXDTE yyddd]       )
                       ( [SEC {0|1|3}]                     )
  options:
  [PERM] [CHANGE|NOCHANGE]

• LISTDS [?|dsname][fm|*] [ (options...[) ]]
  options:
  [ {FORMAT|FO} ][PDS][ {EXTENT|EX}|FREE]

• Listfile [fn|* [ft|* [fm|*]]] [ (options...[) ]
  options:
  [Header|NOHeader]  [Exec|APpend]
  [FName|FType|FMode|FOrmat|ALloc|Date|Label]

• LISTIO {SYS|PROG|SYSxxx|A|UA|ALL} [options...[) ]]
  options:
  [EXEC|APPEND] [STAT]

• LKED fn [ (options...[) ]]
  options:
  [NCAL][LET][ALIGN2][NE][OL][RENT][REUS][REFR][OVLY][XCAL]
  [TERM|NOTERM] [NAME membername] [LIBE libraryname]
  [XREF|MAP|LIST] [PRINT|DISK|NOPRINT]

• LOAD  fn ... [ (options...[) ]]
  options:
  [CLEAR|NOCLEAR] [RESET {entry|*} ] [NOMAP|MAP] [NOINV|INV]
  [NOREP|REP] [START] [TYPE|NOTYPE] [NOAUTO|AUTO] [NOLIBE|LIBE]
  [ORIGIN{hexloc|TRANS} ] [NODUP|DUP]
          ┌          ┐
• LOADLIB |LIST      | fileid1 [fileid2 [fileid3]][ (options...[) ]]
          |COMPRESS|
          |COPY      |
          └          ┘
  options:
  [TERM|PRINT|DISK] [REPLACE|MODIFY]

  SYSIN control statements (for COPY only):
  [SELECT|EXCLUDE]

• LOADMod  fn [MODULE [fm|*]]

• MAClib ( {GEN}                                        )
         ( {ADD} libname fn1 [fn2...]                   )
         ( {REP}                                        )
         { DEL libname membername1 [membername2...]     }
         ( COMP libname                                 )
         ( MAP libname [ (options...[) ]]               )
  options (for MAP only):
  [TERM|PRINT|DISK]

• MAKEBUF

• MODmap  fn

• MOVEfile [inddname|INMOVE[outddname|OUTMOVE]][ (PDS[) ]]

• NCPDUMP [DUMPxx] [ (options...[) ]]
  options:
  [ ( [ERASE] [NOFORM] [MNEMONIC] [NCPBUFF] [) ]]

• OPTION  [options...]
  options:
  [DUMP|NODUMP] [DECK|NODECK] [LIST|NOLIST] [LISTX|NOLISTX]
  [SYM|NOSYM] [XREF|NOXREF] [ERRS|NOERRS] [48C|60C] [TERM|NOTERM]

• OSRUN member PARM=parameter

• PRint  fn ft [fm|*] [ (options...[) ]]
  options:
  [CC|NOCC] [MEMber {*|name}] [UPcase] [HEX] [LInecoun {nn|55}]

• PSERV procedure [ft|PROC] [ (options...[) ]]
  options:
  [DISK] [PRINT] [PUNCH] [TERM]

• PUnch fn ft [fm|*] (options...[) ]]
  options:
  [Header|NOHeader] [MEMber {*|membername}]
```

```
• Query  (ABBREV                               )
         (BLIP                                 )
         (DISK [mode|*]                        )
         (FILEDEF                              )
         (IMPCP                                )
         (IMPEX                                )
         (INPUT                                )
         (LABELDEF                             )
         (LDRTBLS                              )
         (LIBRARY                              )
         (MACLIB                               )
         (OUTPUT                               )
         (PROTECT                              )
        <(RDYMSG                               )>
         (REDTYPE                              )
         (RELPAGE                              )
         (SEARCH                               )
         (SYNONYM{SYSTEM|USER|ALL}             )
         (SYSNAMES                             )
         (TXTLIB                               )
       CMS/DOS Functions:                      )
         (DOS                                  )
         (DOSLIB                               )
         (DOSPART                              )
         (OPTION                               )
         (UPSI                                 )

• READcard  { {fn} [ft] [fm|A] | {*} [*] [fm|A] }

• RELease  {cuu|mode} [ (DET[) ]]

• Rename   fileid1 fileid2 [ (options...[) ]]
  options:
  [Type|NOType] [UPdirt|NOUPdirt]

• RO

• RSERV modname [ft|TEXT] [ (options...[) ]]
  options:
  [DISK] [PRINT] [PUNCH] [TERM]

• RT

• RUN  fn [ft [fm]] [ (args...) ]

• SET function
  functions:
  [LDRTBLS nn] [RELPAGE {ON|OFF}] [INPUT{a xx|xx yy}]
  [RDYMSG {SMSG|LMSG}] [ABBREV {OFF|ON}] [IMPCP {OFF|ON}]
  [BLIP {string[ (count) ]|ON|OFF}] [CMSTYPE {HT|RT}]
  [OUTPUT xx a] [REDTYPE {ON|OFF}] [IMPEX {OFF|ON}]
  [AUTOREAD {ON|OFF}] [PROTECT {OFF|ON}]
  [SYSNAME {CMSDOS|CMSVSAM|CMSAMS|CMSSEG} entryname]
  [NONSHARE {CMSDOS|DMSVSAM|CMSSEG|CMSAMS}]

  CMS/DOS functions:
  [DOS ON[mode[ (VSAM[) ]]]|DOS OFF] [DOSLNCNT nn]
  [UPSI {nnnnnnnn|OFF}] [DOSPART {nnnnnK|OFF}]
          ┌                       ┐
• SETPRT |CHars[ (]cccc...[) ]  |
          |COpies[ (]nnn[) ]      |
          |COPYnr[ (]nnn[) ]      |
          |FCb[ (]ffff[) ]        |
          |FLash[ (]id nnn[) ]    |
          |Init                    |
          |Modify[ (]mmmm[n][) ]]|
          └                       ┘
• SO

• SORT  fileid1 fileid2

• SSERV sublib bookname [ft|COPY] [ (options...[) ]]
  options:
  [DISK] [PRINT] [PUNCH] [TERM]

• START  [ {entry|*} [args ...]|NO]

• {STATE|STATEW}   {fn|*}  {ft|*} [fm|*]

• SVCTrace  {ON|OFF}

• SYNonym [fn [SYNONYM [fm|A1|*]]] [ (options...[) ]]
  options:
  [NOSTD|STD] [CLEAR]

• TAPE (DUMP {fn|*} {ft|*} [fm|*] [ (optA optB optD[) ]] )
       (DVOL1 [ (optD optE[) ]]                           )
       (LOAD [{fn|*} {ft|*} [fm|A] [ (optB optC optD[) ]] )
       (MODESET [ (optD[) ]]                              )
       (SCAN [{fn|*} {ft|*}] [ (optB optC optD[) ]]        )
       (SKIP [{fn|*} {ft|*}] [ (optB optC optD[) ]]        )
       (tapcmd [n|1] [ (optD[) ]]                          )
       (WVOL1 volid [owner] [ (optD optE[) ]]              )

    Note: The tapcmd operand can be:
       [BSF|BSR|ERG|FSF|FSR|REW|RUN|WTM]
```

```
  optA:  [WTM|NOWTM] [BLKSE {4096|800}]
  optB:  [NOPRint|PRint|DISK|Term]
  optC:  [EOF n|EOT|EOF 1]
  optD:  [[TAPn|TAP1][cuu|181]][TRTCH| {0|OC|OT|E|ET}]
            [7TRACK|9TRACK][DEN {200|556|800|1600|6250}]
  optE:  [LEAVE|REWIND]
                   ┌                                  ┐
• TAPEMAC fn |SL [labeldefid]                       | [ (options...[) ]]
                   |NSL filename [ID=identifier]|
                   └                                  ┘
  options:
  [TAP {n|1}] [ITEMCT {yyyyy|50000}]
                                       ┌                                ┐
• TAPPDS [fn|*[ft|*[fm|*|A1]]|SL[labeldefid]              | [ (op-
                                       |                          ┌    ┐|  tions...[) ]]
                                       |NSL filename|ID=iden-||
                                       |                  |   tifier||
                                       |                  └        ┘|
                                       └                                ┘
  options:
  ┌       ┐ ┌       ┐ ┌     ┐ ┌      ┐ ┌         ┐
  |UPDATE| |COL1   | |TAPn| |END   | |MAXTEN   |
  |NOPDS | |NOCOL1| |TAP1| |NOEND| |NOMAXTEN|
  |PDS   | └       ┘ └     ┘ └      ┘ └         ┘
  └       ┘

• TXTlib  (GEN libname fn1 [fn2...]                  )
          (ADD libname fn1 [fn2...]                  )
          (DEL libname membername [membername2...]  )
          (MAP libname [ (options...[) ]]            )
  options (for MAP only):
  [TERM] [PRINT] [DISK]

• Type  fn ft [fm|*] [{recl|*|1} [recn|*]] [ (options...[) ]]
  options:
  [COL {xxxxx|1}-[yyyyy|lrecl]][HEX][{MEMBER|MEM} {*|name}]
                ┌           ┌                         ┐┐
• Update fn1 |ft1        |fm1 [fn2 [ft2 [fm2]]]||[ (options...[) ]]
                |ASSEMBLE |A1                         ||
                └           └                         ┘┘
  options:
  ┌      ┐┌      ┐┌      ┐┌      ┐┌      ┐┌       ┐
  |REP   ||NOSEQ8||INC   ||CTL   ||STK   ||NOTERM|
  |NOREP||SEQ8  ||NOINC||NOCTL||NOSTK||TERM   |
  └      ┘└      ┘└      ┘└      ┘└      ┘└       ┘
  ┌      ┐┌       ┐
  |PRINT||STOR   |
  |DISK  ||NOSTOR|
  └      ┘└       ┘

  Control Statements:
    ./ S [seqstrt [seqincr [label]]]
    ./ I seqno [$] [seqstrt [seqincr]]
    ./ D seqno1 [seqno2] [$]
    ./ R seqno1 [seqno2] [$ [seqstrt [seqincr]]]
    ./ * [comment]

• XEDIT (see Reference Summary XEDIT Commands, Order No.
  SX24-5122)
```

```
|<<<<<*>>>>>><<<<<*>>>>>   RSCS Commands   <<<<<*>>>>>><<<<<*>>>>>|
```

```
• BAckspac [linkid] [FILE|nnn]

• CHange [linkid] spoolid (PRIority nn          )
                          (CLass c              )
                          (COpy nn              )
                          ([HOld|NOHold]        )
                          (DIst distcode        )
                          (Name {fn [ft]|dsname})

• CMD linkid {text|LOG|NOLOG}

• DEFine linkid {CLass c|KEEP holdslot|LINE vaddr}
                {TASK name|TYPE driverid         }

• DElete linkid

• DISConn [userid]

• DRain [linkid]

• FLush [linkid] [spoolid|*] [ALL] [HOld]

• FRee [linkid] [nnn]

• FWdspace [linkid] [nnn]

• HOld [linkid] IMMED

• Msg linkid [userid] msgtext

• ORDer [linkid] {spoolid1 [spoolid2... ]}

• PURge [linkid] {ALL|spoolid1 [spoolid2... ]}
```

```
• Query {linkid [Stat|Def|Queue]          }
        {File spoolid [STAt|RSCS|VM]      }
        {SYstem [Active]                  }
                       ┌               ┐
• STArt  [linkid] |CLass c        | [Parm...]
                       |LINE vaddr     |
                       |TASK name      |
                       |TYPE driverid|
                       └               ┘
• TAg (described under CP class G commands)

• TRace linkid [ALL|ERRors|END]
```

```
|<<<<<*>>>>>**<<<<*>>>>>   Service  Aids   <<<<<*>>>>>**<<<<*>>>>>|
```

```
||||*|||*||*||   DASD/DUMP/RESTORE Service Program   ||*||*|||*||||
```

```
• DDR [fn  ft  [fm]]

  I/O Definition Statements:
  {INput|OUTput} cuu type [volser|altape] [ (options...[) ]]
  options:
  [SKip {nn|0}] [REWind|LEave|UNload] [MOde {6250|1600|800}]

  SYSPRINT Control Statements:
  SYsprint cuu

  Function Control Statements:
                ┌                                         ┐
  {DUmp    }  |cyl1 [To] [cyl2 [Reorder] [To] [cyl3]]|
  {COpy    }  |CPvol                                    |
  {REstore }  |NUcleus                                  |
                |ALL                                      |
                └                                         ┘

  TYPE and PRINT Function Statements:
                ┌     ┌    ┐┐
  {PRint} cyl1 |hh1 |rr1||[To cyl2 [hh2 [rr2]]][ (options...[) ]]
  {TYpe }       | 0   | 0 ||
                └     └    ┘┘
  options:
  [Hex] [Graphic] [Count]
```

```
|||||*||||*|||   Format/Allocate Service Program   |||*||||*|||||
```

Format Service Aid Control Statements:

```
FORMAT,devadr,devtype,volser,startcyladr,endcyladr
ALLOCATE,devadr,devtype,volser
TEMP,startcyladr,endcyladr
PERM,startcyladr,endcyladr
TDSK,startcyladr,endcyladr
DRCT,startcyladr,endcyladr
END

FORMAT,devadr,devtype,volser,LABEL
```

```
|||||*||||*|||*||   IBCDASDI  Service Program   ||*|||*||||*|||||
```

Control Statements:

```
JOB [user information]

MSG TODEV=xxxx,TOADDR=cuu

DADEF TODEV=xxxxxx,TOADDR=cuu[,IPL=YES] [,VOLID={serial|SCRATCH}]
 [,MODEL=n] [,CYLNO=nnn] [,FLAGTEST=NO] [,PASSES=n] [,BYPASS=YES]

VLD NEWVOLID=serial[,VOLPASS={0|1}]
 [,OWNERID=xxxxxxxxxx][,ADDLABEL=n]

VTOCD STRTADR=nnnnn,EXTENT=nnnn

END [user information]

GETALT TODEV=xxxx,TOADDR=cuu,TRACK=cccchhhh,VOLID=serial
 [,FLAGTEST=NO] [,PASSES=n] [,BYPASS=YES] [,MODEL=n]
```

IBM **Reference Summary**

Virtual Machine/System Product Commands (General User)

SX20-4401-0

First Edition (September 1980)

This edition, SX20-4401, corresponds to the IBM Virtual Machine/System Product and to all subsequent releases unless otherwise indicated in new editions. Note that the basic documents are the authoritative sources and will be first to reflect any changes. Information herein is extracted from SC19-6202, SC19-6203, SC19-6205, GC20-1816, SC19-6209, SC19-6210, SC19-6211, and GC20-1823.

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<<<<<*>>>>>*<<<< CP Class G and Any Commands >>>>*<<<<<*>>>>>

```
•  * anycomment

•  #CP [commandline1 [#commandline2 #...]]

•  ADSTOP { hexloc|OFF }

•  ATTN

•  Begin [hexloc]

•  CHange (Reader  (CLass c1  )(CLass c2        )
          (Printer)spoolid    )(COpy [*] nnn    )
          (PUnch  )FORM form1 )([HOld|NOHold    )   [NAme {fn[ft]} ]
          (       (ALL        )(DIst distcode   )   [     {dsname } ]
          (                    (FLash name nnn  )
          (                    (MOdify name     )
          (                    (CHars name      )
          (                    (FCB name        )
          (                    (FORM form2      )

•  CLose  ( [Reader                ]                                     )
          ( [vaddr [HOld|NOHold]   ]                                     )
          (                                                              )
          (  Console [FORM form                                      ]   )
          (  Printer [PUrge                                          ]   )
          (  PUnch   [[      ]                                       ]   )
          (  vaddr   [[HOld  ][DIst distcode][NAme   {fn [ft]}]      ]   )
          (  CONsole [[NOHold]               [       {dsname  }]     ]   )

•  COUPLE  vaddr1 [To] userid vaddr2

•  CP [commandline1 [#commandline2 #...]]

•  DEFine ( ( Reader   )
          ( ( Printer  )
          ( ( PUnch    )
          ( ( CONsole  )
          ( ( CTCa     )
          ( ( TIMer    )
          ( ( 1403     )
          ( ( 1443     )
          ( ( 2501     )  [As] vaddr
          ( ( 2540P    )
          ( ( 2540R    )
          ( ( 3203     )
          ( ( 3211     )
          ( ( 3289E    )
          ( ( 3505     )
          ( ( 3525     )
          (
          ( 3800 [As] vaddr[Size ww ll][4Wcgm] [CFS] [DAtch  ]
          (                            [2Wcgm] [BTS] [NODatch]
          (
          ( CHANnels [As] {SEL|BMX}
          ( LIne [As] vaddr [TELE[2]|IBM[1]]
          ( vaddr1 [As] vaddr2
          ( GRAF cuu [3033|3036|3138|3148|3158|3270]
          ( {TPB-512 }
          ( {T3310   } [As] vaddr [BLK] [nnnnnn]
          ( {T3370   }
          (
          ( (T2314)
          ( (T2319)
          ( (T3330)
          ( (T3340) [As] vaddr [CYL] nnn
          ( (T3350)
          ( (T3390)
          ( (Txxxx)
          (
          ( STORage [As] {nnnnnK|nnM}

•  DETach {[vaddr [vaddr ...]] | [vaddr-vaddr]}

•  DETach  CHANnel c

•  DIAL userid [vaddr]

•  DISConn [HOld]

•  Display ( [ hexloc1] [{-}[hexloc2|END]      ] )
          ( [Khexloc1] [{:}                    ] )
          ( [Lhexloc1] [                       ] )
          ( [Thexloc1] [{.}[bytecount|END]     ] )
          (                                       )
          ( Greg1 [ {-}[reg2|END]    ]            )
          ( Yreg1 [ {:}              ]            )
          ( Xreg1 [                  ]            )
          (       [ {.}[regcount|END]]            )
          (                                       )
          ( Psw                                   )
          ( CAW                                   )
          ( CSW                                   )

•  DUMP ([Lhexloc1][{-}[hexloc2|END]   ])[*dumpid]
        ([Thexloc1][{:}                ])
        ([ hexloc1][                   ])
        (          [{.}[bytecount|END] ])

•  ECho  [nn|1]

•  EXTernal  [code|40]

•  INDicate [LOAD|USER]

•  Ipl (vaddr [cylno ] [CLear  ] [STOP] [ATTN] )[PARM {p1 p2 ...}]
       (      [nnnnnn] [NOCLear]               )
       (                                       )
       (systemname                             )

•  LINK [To] userid vaddr1 [As] vaddr2 [mode][[PASS=] password]

•  LOADVFCB  vaddr  Fcb name [Index [nn]]

•  {LOGoff|LOGout} [HOld]

•  {Logon|Login} userid [password] [Mask] [Noipl]

•  {Message|MSG} {userid|*|OPerator} msgtxt

•  NOTReady  vaddr

•  ORDer  {Reader|Printer|PUnch}(CLass c1 CLass c2...    )
                               (spoolid1 spoolid2...    )
                               (FORM form1 FORM form2 ...)

•  PURge (Reader  [CLass c1 CLass c2 ...       ])
         (Printer [FORM form1 FORM form2 ...   ])
         (PUnch   [spoolid1 spoolid2 ...       ])
         (ALL     [ALL                         ])

•  Query {LOGmsg|Names|Users [userid]|userid}

•  Query(  Time                                                ]
       (  Set                                                  ]
       (  TERMinal                                             ]
       (  CPUid                                                ]
       (                                                       ]
       (    Files  [CLass c] [FORM form] [NOHold  ]            ]
       (                                 [HOld    ]            ]
       (                                 [USERhold]            ]
       (                                 [SYShold ]            ]
       (                                                       ]
       (  (                  [CHANnels        ] )              ]
       (  (                  [GRaf            ] )              ]
       (  (                  [CONsole         ] )              ]
       (  (                  [DAsd            ] )              ]
       (  (   [Virtual]      [TApes           ] )              ]
       (  (                  [LINES           ] )              ]
       (  (                  [UR              ] )              ]
       (  (                  [STORage         ] )              ]
       (  (                  [ALL             ] )              ]
       (  (                  [vaddr[-vaddr]   ] )              ]
       (                                                       ]
       (  Links          vaddr                                 ]
       (                                                       ]
       (  SECuser                                              ]
       (                                                       ]
       (  {Reader } ( [CLass c  ] [NOHold  ] ) [ALL]           ]
       (  {Printer} ( [FORM form] [HOld    ] ) [TBL]           ]
       (  {PUnch  } ( [spoolid  ] [USERhold] )                 ]
       (            (             [SYShold ] )                 ]
       (                                                       ]
       (  PF[nn]                                               ]

•  READY  vaddr

•  REQuest

•  RESET  vaddr

•  REWind  vaddr

•  SCREen (((ALL                          )) (DEFault  )) {NONe      }}
          (((INArea                       )) (BLUe     )) {{BLInk   }}}
          (((STAtarea                     )) (RED      )) {{REVvideo}}}
          (((OUTarea  [ (CPOut     ) ]    )) (PINk     )) {{UNDerlin}}}
          (((          [{VMOut     } ]    )) (GREen    ))
          (((          [ (INRedisp ) ]    )) (TURquois ))
          (((                             )) (YELlow   ))
          (((                             )) (WHIte    ))

•  SEND [CP] userid [text]

•  Set [  ( ACNT     )                                              ]
       [  ( AUTOPoll )                                              ]
       [  ( MSG      )                                              ]
       [  ( SMSG     )                                              ]
       [  ( WNG      )   {ON }                                      ]
       [  ( IMSG     )   {OFF}                                      ]
       [  ( RUN      )                                              ]
       [  ( LINEDit  )                                              ]
       [  ( NOTRans  )                                              ]
       [  ( ECmode   )                                              ]
       [  ( ISAM     )                                              ]
       [  ( PAGEX    )                                              ]
       [  EMSG {ON|OFF|CODE|TEXT}                                   ]
       [                                                            ]
       [  TIMER {ON|OFF|REAL}                                       ]
       [                                                            ]
       [  CPUid bbbbbb                                              ]
       [                                                            ]
       [  ASsist {OFF|[ON][SVC|NOSVC][TMR|NOTMR]}                   ]
       [                                                            ]
       {  AFFinity [ON|OFF]                                         }
       [                                                            ]
       [  PFnn [IMMed|DElayed][pfdata1#pfdata2...#pfdatan]          ]
       [                                                            ]
       [  PFnn [TAB n1 n2 ... nn]                                   ]
       [                                                            ]
       [  PFnn [COPY [resid|cuu|luname]                             ]
       [                                                            ]
       [  VMSAVEn {ON|OFF|name}                                     ]
       [                                                            ]
       [  STBypass ( [{nnnnnK}[NOVERIFY]] )                         ]
       [           ( [{nnM   }          ] )                         ]
       [           (                      )                         ]
       [           (  VR                  )                         ]
       [           (  OFF                 )                         ]
       [                                                            ]
       [  STMulti { {n } [[ISEGxx]CSEGyyy] }                        ]
       [          { {ON}                   }                        ]
       [          { OFF                    }                        ]
       [                                                            ]
       [  370E [ON|OFF]                                             ]

•  SLeep [nn [SEC|MIN|HRS]]

•  SMsg userid msgtext

•  SPool {Reader}{[CLass{*|c}][CONt  ][EOF  ][HOLD  ]}
         {vaddr }{           [NOCont][NOEof][NOHOLD]}

         (Printer)([[To ] (userid) ][HOld  ][CONt  ][CLass c] )
         (PUnch  )([[For] {  *   } ][NOHold][NOCont]          )
         (CONsole)([      (SYSTEM) ]                          )
         (vaddr  )([ OFF           ]                          )
                  (                                           )
                  ([COpy[*]nnn] [CLOSE|PURGE]                 )
                  ([FLash name nn|MOdify name|Chars           )
                  (                    name|FCB name]         )
                  (                                           )
                  ([STArt][FORM{form}][TErm  ][Dist{distcode}])
                  ([STOp ][    {OFF }][NOTErm][    {OFF     }])

•  STore ( {hexloc|Lhexloc} hexwd1 [hexwd2...] )
         ( Shexloc  hexdata                   )
         ( {Greg|Yreg} hexwd1 [hexwd2...]      )
         ( Yreg hexdwd1 [hexdwd2...]           )
         ( Psw [hexwd1] hexwd2                 )
         ( STATUS                              )

•  SYStem  {CLEAR|RESET|RESTART}

•  TAg  DEv {Printer|PUnch|CONsole|vaddr} [tagtext]
        FILE  spoolid [text]
        QUery {DEv {Printer|PUnch|CONsole|vaddr}}
              {FILE spoolid                      }

•  TERMinal ( ( CHardel )                  )
            ( ( EScape  )  {ON  }          )
            ( ( LINEDel )  {OFf }          )
            ( ( LINENd  )  {char}          )
            ( ( TABchar )                  )
            (                              )
            ( ( APL     )                  )
            ( ( TEXT    )                  )
            ( ( ATtn    )  {ON }           )
            ( ( Mask    )  {OFf}           )
            ( ( HIlight )                  )
            ( ( SCRNsave)                  )
            (                              )
            (  MODE {CP|VM}                )
            (                              )
            (  LINESize nnn                )
            (                              )
            (  CONmode {3215|3270}         )
            (                              )
            (  BREakin {IMMed|GUESTctl}    )
            (                              )
            (  BRKkey {PA1|PF1|...|PF24}   )

•  TRace ( (SVC      )                                   )
         ( (I/O      )                                   )
         ( (PROgram  )  [ PRINter                    ]   )
         ( (EXTernal )  [                            ]   )
         ( (PRIV     )  [ [BOTH    ] [RUN  ]         ]   )
         ( (SIO      )  [ [TERMinal] [NORun]         ]   )
         ( (CCW      )  [                            ]   )
         ( (BRanch   )  [ OFf                        ]   )
         ( (INSTruct )                                   )
         ( (ALL      )                                   )
         ( (CSW      )                                   )
         (                                               )
         (  END                                          )

•  TRANsfer [Printer] (spoolid  ) {[To] {userid}} [Printer]
            [PUnch  ] (CLass c  ) {     {  *   }} [PUnch  ]
            [Reader ] (FORM form) {From {userid}} [Reader ]
                      (ALL      ) {     {ALL   }}

•  VMDUMP [hexloc1] [{-} [hexloc2]  ] [TO *       ]
          [0      ] [{:} [END    ]  ] [TO userid  ]
                    [               ] [SYSTEM     ]
                    [{.} [bytecount]]
                    [    [END      ]]
       [FORMAT vmtype] [DSS] [*dumpid]
```

<<<<<*>>>>>**<<<<*>>>>>   CMS Commands   <<<<<*>>>>>**<<<<*>>>>>

```
•  * anycomment

•  ACcess [cuu mode[/ext [fn|* [ft|* [fm|*]]]] [(options...[)]]]
          [191A                                                ]
   options:
   (NOPROF[)] (ERASE[)] (NODISK[)]

•  AMserv fn1 [fn2|fn1] [(options...[)]]
   options:
   [PRINT] [TAPIN {18n|TAPn}] [TAPOUT {18n|TAPn}]

•  ASM3705 fn [(options...[)]]
   Listing Control options:
   [LIST|NOLIST] [LINECOUN 55|LINECOUN nn]
   [DISK|PRINT|NOPRINT] [XREF|NOXREF]
   [DECK|NODECK] [RENT|NORENT] [LOAD|NOLOAD]

•  ASMGEND

•  Assemble  fn  [(options...[)]]

   Listing Control options:
   [ALOGIC|NOALOGIC] [MLOGIC|NOMLOGIC]
   [ESD|NOESD] [RLD|NORLD]
   [LIST|NOLIST] [LIBMAC|NOLIBMAC]
   [MCALL|NOMCALL] [FLAG (0)|FLAG (nnn)]
   [LINECOUN (55)|LINECOUN (nn)]
   [DISK|PRINT|NOPRINT]
   [XREF (FULL)|XREF (SHORT)|NOXREF]

   Output Control options:
   [DECK|NODECK] [OBJECT|NOOBJECT] [TEST|NOTEST]

   SYSTERM options:
   [NUMBER|NONUM] [STMT|NOSTMT] [TERMINAL|NOTERM]

   Other options:
   [ALIGN|NOALIGN] [BUFSIZE (STD)|BUFSIZE (MIN)] [YFLAG|NOYFLAG]
   [RENT|NORENT]  [SYSPARM (string)|SYSPARM (?)|SYSPARM ( )]

•  ASSGN  SYSxxx ( Reader      ) [(options...[)]]
                 ( PUnch       )
                 ( PRinter     )
                 ( Terminal    )
                 ( TAP [n|1]   )
                 ( mode        )
                 ( IGN         )
                 ( UA          )
   options:
   [{UPCASE|LOWCASE}] [{7TRACK|9TRACK}] [TRTCH a] [DEN den]

•  CMSBATCH [sysname]

•  CMSGEND fn [CTLCMS|CTLALL|NOCLEAR|MAP|NOINV] [mode 'x'|A]

•  COMpare  fileid1 fileid2 [(COL {nn|1}-[nn|lrecl] [)]]

•  CONWAIT

•  COPYfile  fileidi1 [fileidi2...] [fileido] [(options...[)]]
   options:
   [Type|NOTYPE] [NEWDate|OLDDate] [NEWFile|REPlace]
   [PRompt|NOPRompt]

   Copy Extent options:
   [FRom recno|FRLabel xxxxxxxx] [FOR numrec|TOLabel xxxxxxxx]
   [SPecs|NOSPecs] [OVly|APpend]

   Data Modification options:
   [RECfm {F|V}][LRecl nnnnn][TRUnc|NOTRunc]
   [PAck|UNPack] [FIll{c|hh|40}]

   Character Translation options:
   [EBcdic] [UPcase|LOwcase] [TRans] [SIngle]

•  CP [commandline]

•  CPEREP [filename filetype [filemode|*]]

   Note: Operands cannot  be entered on command  line.  This
   command is  for use of  CP Class C,  E, or F  users only.
   For  additional  information  and  details  about  CPEREP
   operands  and  their  use, see  VM/SP  OLTSEP  and  Error
   Recording Guide, Order No. SC19-6205.

•  DDR  [fn  ft [fm|*]] (see Service Aids)

•  DEBUG

   After entering DEBUG environment; the DEBUG subcommands are:

   BReak id {symbol|hexloc}

   CAW

   CSW

   DEFine symbol hexloc [bytecount|4]

   DUmp [symbol1|hexloc1|0 [symbol2|hexloc2|*|32] [ident]]

   GO [symbol|hexloc]

   GPR reg1 [reg2]

   HX

   ORigin [symbol|hexloc|0]

   PSW

   RETurn

   SET  ( CAW hexinfo              )
        { CSW hexinfo[hexinfo]     }
        { PSW hexinfo[hexinfo]     }
        ( GPR reg hexinfo[hexinfo] )

   STore  {symbol|hexloc} [hexinfo[hexinfo]]

   X {symbol [n|length]|hexloc [n|4]}

•  DESBUF

•  DIRECT [fn|USER [ft|DIRECT [fm|*]]] [(EDIT)]
   control statements:
   Account number [distribution]     Console cuu devtype [class]
   Dedicate cuu {rdev|[VOLID]volser}[R/O][3330V]
   DIRectory cuu devtype volser       Ipl iplsys
   Link userid idev [cuu[mode]]
   Mdisk cuu devtype {cylr cyls volser [mode[pr[pw[pm]]]]}
                     {T-DISK cyls                        }
   Option Realtimer Ecmode Virt=Real Acct Svcoff BMX
                     CPUID bbbbbb AFFinity nn Isam VMsave
   SPEcial cuu devtype [IBM|Tele]    Spool cuu devtype [class]
   User userid pass [stor [mstor [cl [pri
                               [le  [ld  [cd  [es  ] ] ] ]  ] ] ] ]
                               [ON  [ON  [ON  [ON  ] ] ] ]
                               [OFF [OFF [OFF [OFF ] ] ] ]

•  DISK   {DUMP fn ft [fm]|LOAD}

•  DLBL  [ddname {mode } [CMS fn    ft     ][(optionA optionB[)]]   ]
         [       {DUMMY} [CMS FILE ddname  ]                        ]
         [                                                          ]
         [                                              [(optionA   ]
         [ddname {mode } [DSN quad1 [qual2...qualn]]      optionB   ]
         [       {DUMMY} [DSN ?                    ]      optionC[)]]
         [                                                          ]
         [{ddname|*} CLEAR                                          ]
   optionA: [SYSxxx]
   optionB: [PERM] [CHANGE|NOCHANGE]
   optionC: [VSAM] [CATcatdd] [EXTENT|MULT] [BUFSP nnnnnn]

•  DOSLIB  (DEL libname phasename1 [...phasenamen])
           {COMP libname                           }
           (MAP libname [(options...[)]]           )
   options (for MAP only):
   [DISK|PRINT|TERM]

•  DOSLKED fn [libname|fn] [(options...[)]]
   options:
   [DISK|PRINT|TERM]

•  DSERV (CD[PHASE {phasename[nn|12]}]) [d2...dn] [(options...[)]]
         (RD                          )
         (SD                          )
         (PD                          )
         (TD                          )
         (ALL                         )
   options:
   [DISK|TERM|PRINT] [SORT]

•  DROPBUF n

•  DSERV ( CD [PHASE {name[nn]}] ) [d2...dn][(options...[)]]
         (    [      {    [12]}] )
         (                       )
         ( RD                    )
         ( SD                    )
         ( PD                    )
         ( TD                    )
         ( ALL                   )
   options:
   [DISK|TERM|PRINT] [SORT]

•  Edit fn ft [fm|*] [(options...[)]]
   options:
   [LRECL nnn] [NODISP]

   The EDIT subcommands and macro instructions are:

   $DUP [1|n]

   $MOVE n {UP m|DOWN m|TO label}

   ?

   ALter char1 char2 [1|n|* [G|*|1]]

   AUTOsave {n|OFF}

   BAckward  [1|n]

   Bottom

   CASE  [U|M]

   Change [/string1[/string2[/[n|*|1[G|*]]]]]

   CMS

   DElete [n|1|*]

   DOwn [n|1]

   DString  /[string[/]]

   FILE  [fn [ft [fm]]]

   Find  [line]

   FMode  [fm]

   FName  [fn]

   FORMat {DISPLAY|LINE}

   FOrward  [1|n]

   Getfile {fn|*} [ft|* [fm|* [firstrec|1 [numrec|*]]]]

   IMAGE [ON|OFF|CANON]

   Input [line]

   LINEmode [{Left|L}|{Right|R}|OFF]

   [Locate] /[string[/]]

   LONG

   Next  [n|1]

   Overlay  [line]

   PREserve

   PROMPT  [n|10]

   QUIT

   RECfm  [F|V]

   RENum  [strtno|10 [incrno|strtno]]

   REPEAT  [n|1|*]

   Replace  [line]

   REStore

   RETURN

   {REUSE|=}  [any valid EDIT subcommand]

   SAVE  [fn [ft [fm]]]
```

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